

**Amendments to the Specification**

**IN THE ABSTRACT OF THE DISCLOSURE**

Attached hereto is a replacement Abstract with markings to show amendments.

**IN THE WRITTEN DESCRIPTION**

Please replace the paragraphs beginning at page 1, line 1, with the following rewritten paragraphs:

This invention relates to tobacco smoke filters containing a particulate sorbent.

~~Such use~~Use of sorbent particles to remove vapour phase (VP) components from tobacco smoke is well known. Cigarettes containing a volatile flavourant (e.g. menthol) are also well known. However, prior attempts to use both a volatile flavourant and a particulate sorbent in a filter cigarette have been unsuccessful, it having been proved impossible to provide a satisfactory level of flavour delivery whilst maintaining a satisfactory level of VP constituent removal by the particulate sorbent.

We have found that this problem can be overcome by a tobacco smoke filter containing activated carbon in which (1) pores of under 2 nm pore diameter (micropores) provide a pore volume of at most  $0.3 \text{ cm}^3/\text{g}$  ( $\text{N}_2$ ); and (2) (a) pores of 2 to 50 nm pore diameter (mesopores) provide a pore volume of at least  $0.25 \text{ cm}^3/\text{g}$  ( $\text{N}_2$ ) and/or (b) pores of 7 to 50 nm diameter (larger mesopores) provide a pore volume of at least  $0.12 \text{ cm}^3/\text{g}$  (Hg). An activated carbon without micropore volume has poor VP removal performance which is reduced yet further or nullified in the presence of a volatile flavourant, and the indicated micro/meso pore combinations are necessary to permit the required balance of flavour delivery and VP removal. Herein, a pore volume expressed in  $\text{cm}^3/\text{g}$  ( $\text{N}_2$ ) means said volume as measured by nitrogen porosimetry, using a Micromeritics Tristar 3000 for measurement of the nitrogen adsorption/desorption isotherms and characterising the pore

size distribution via the BJH method on the desorption branch of the isotherm. A pore volume or surface area expressed in  $\text{cm}^3/\text{g}$  (Hg) or  $\text{m}^2/\text{g}$  (Hg) means said value as measured by mercury porosimetry using a contact angle of  $140^\circ$  and a surface tension value of 480 dynes/cm.

Please replace the paragraph beginning at page 3, line 1, with the following rewritten paragraph:

In the activated carbon used according to the invention pores of over 50 nm pore diameter (macropores) preferably provide a pore surface area of at least  $5 \text{ m}^2/\text{g}$  (Hg), most preferably  $\geq 6$  or more  $\text{m}^2/\text{g}$  (Hg).

Please replace the paragraphs beginning at page 3, line 19, with the following rewritten paragraphs:

We have most unexpectedly found that activated carbon of such a carefully controlled micro/meso porosity - and preferably micro/meso/macro porosity - (a) shows a satisfactory level of adsorption of a volatile flavourant such as menthol (not too little and not too much); (b) releases a sufficient amount of the flavourant ~~under~~during smoking conditions to deliver a satisfactory taste; (c) shows a good adsorption of VP components from tobacco smoke; and (d) retains a satisfactory (albeit reduced) level of this VP removal, even in the presence of a volatile flavourant such as menthol. This combination of properties has not heretofore been attainable.

Accordingly, the invention also provides a tobacco smoke filter according to the invention incorporated in a filter cigarette containing a volatile flavourant - e.g. menthol. Such a filter cigarette provides for the first time the combination of flavour delivery to give an acceptably flavoured taste with an acceptable reduction in delivery of VP smoke components.

The filter according to the invention may be of any design previously proposed for particulate sorbent-containing

tobacco smoke filters. For example the carbon may be dispersed throughout a filter plug, carried on the tow or fibres or sheet material which is gathered to form the plug; it may instead be adhered to one or more threads which extend through the matrix of the filter plug or be adhered to the inner face of a wrapper around the filter plug; or it may form a bed sandwiched between a pair of plugs (e.g. of cellulose acetate tow) in a common wrapper. The carbon may be treated with the flavourant prior to filter production so that it acts as a carrier for the flavourant and minimises migration of the flavourant during storage. Instead, the carbon could be used in a suitable filter in the unflavoured state, with the flavourant being added to another part of the filter and/or to the cigarette with which the filter is used and/or to the filter cigarette packaging. The flavourant might be carried on a wrapper around a filter plug or on one or more threads through a filter plug, and such a plug may be the plug which also carries the activated carbon or a separate plug.

Please replace the paragraph beginning at page 5, line 20, with the following rewritten paragraph:

For each Example, a sample of the respective activated carbon was dried and exposed to a menthol atmosphere in a desiccator at 55°C for 4 days, and the increase in weight was recorded. "Triple granular" cigarette filters were then assembled, each containing 100 mg of the mentholated carbon in a packed bed between two cellulose acetate filter segments. The filter cigarettes were smoked under ISO conditions (35 cm<sup>3</sup> puffs, each of two seconds duration, taken once per minute) and the menthol yields from the cigarettes were measured. The vapour phase of cigarette smoke was also collected and the percentage reduction of a selected number of vapour phase compounds measured; the mean reduction in these VP compounds, and the reduction obtained from an equivalent filter with 100 mg of the same carbon prior to exposure to menthol, were

measured relative to an equivalent filter cigarette with no carbon.